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18 May 1965

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MEMORANDUM FOR THE RECORD

SUBJECT : BLACK SHIELD Meeting of 12-13 May 1965

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1. The subject meeting was held at [] primarily to develop a coordinated [] Headquarters pacing schedule of flights per aircraft to accomplish the required flight testing and flight validation prior to 15 September. In a separate memorandum OXCART/FA will discuss the results of the pacing schedule portion of the meeting. This memorandum will confine itself only to the technical problems/items discussed at the meeting.

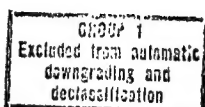
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2. Mr. C.L. Johnson, LAC, noted that the pre and post penetration legs of an operational mission were planned to be flown at Mach 2.6 and commented the Mach 2.6 was a poor cruise speed because of roughness which occurs at this particular Mach number. He advised that Mach 2.8 would be a better speed from the roughness standpoint as well as providing a greater range. However, the actual pre and post penetration Mach number will be determined during flights subsequent to the modification program. The only firm requirement is a minimum unrefueled operational range of 2000 n.m.

3. The penetration cruise Mach number of 3.05 was selected in January because above Mach 3.05 the inlet performance deteriorated rapidly. Recent limited results of aircraft 129 with certain inlet improvements indicate that performance has improved at Mach 3.2. Further tests will be conducted on aircraft 129 comparing Mach 3.05 cruise to Mach 3.2 cruise and if, in fact, inlet performance is at an acceptable level, the operational penetration leg may be modified to reflect a Mach 3.2 cruise. Pratt and Whitney concurred in the increase to Mach 3.2.

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4. LAC will investigate the possibility of carrying both a camera and a transponder simultaneously so that [REDACTED] flight tests can be accomplished concurrently on multi-purpose flights. In addition, [REDACTED] operations will attempt to devise flight profiles so that [REDACTED] data can be collected on almost all validation flights rather than only on flights specifically designed for [REDACTED] validation.

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5. Mr. Johnson was very firm in his recommendation to conduct environmental tests at McCoy or some other suitable base. His primary concern is one of flight safety, i.e., problems may develop with moisture in the cooling system, freezing of the windshield, etc. A two week period would be sufficient to check such items. It is not intended to check such items as the moisture effect on [REDACTED] or plastic since these determinations come under the category of service tests and require extensive time periods not available to this program. It was agreed that prior to the environmental test results, hardware fabrication should begin immediately for all BLACK SHIELD aircraft on such items as a system for blowing air across the windshield and the necessary hardware to apply a wetting agent to the windshield. Since a BLACK SHIELD aircraft is not necessary to conduct the environmental tests, either aircraft 125, 128 or 132 will be selected within the next two to three weeks so that these tests can start as soon as possible. The actual time for the tests remains to be decided. One LAC and one Detachment pilot will be used.

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6. The decision was made to identify and install in the tankers now the TACAN which is capable of DME only. An ADF capability with TACAN will continue to be pursued. Meanwhile, for aerial rendezvous, the INS and ARC-50 will be primary and secondary respectively.

7. The map destruct system, i.e., tanks, pipes, etc., will be installed in all BLACK SHIELD aircraft, but without the fluid. The objective is to have an immediate capability, if directed, without having to tear out the ejection system, etc., which would be necessary for installation after the modification program.

8. Mr. Johnson presented a series of charts in reviewing the various problem areas and their status of solution. Copies of the charts are available in D/TECH. Mr. Johnson

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did state that more flying must be done with aircraft 129 if timely solutions to the numerous problems were to be attained, and towards this objective he advised that the goal was to complete four flights per week with this aircraft.

9. Comments pertaining to the LAC presentation are noted below:

a. With reference to the reliability chart, the inlet reliability excludes all the flights with the automatic aft by-pass operation.

b. Keeping the forward by-pass door open 3/4" increases the airplane drag by 15%. This is the reason for the very low range factors demonstrated to date on the Detachment aircraft.

c. The EGT error gage is desired as soon as it can be made available, but the auto-trim capability is not contemplated at this time.

d. The pilots prefer the Bendix fuel control over the HSD fuel control, but both have had problems and the experience with the Bendix control is very limited. Pratt and Whitney was requested to have charts for the next BLACK SHIELD meeting showing the complete statistics of both controls. In addition, LAC and P&W will jointly investigate the fuel control problem. Headquarters will initiate the necessary action to set up a joint investigation.

SIGNED

ASD/OSA

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25X1 [REDACTED] (18 May 1965)

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TO: DIRECTOR, CENTRAL INTELLIGENCE AGENCY
FROM: [REDACTED]
SUBJECT: [REDACTED]
[REDACTED]

1. [REDACTED]

2. [REDACTED]

3. [REDACTED]

4. [REDACTED]

5. [REDACTED]

6. [REDACTED]